

a multiple output power supply having a plurality of outputs, the multiple output power supply generating at least one of: (i) a plurality of substantially constant output voltages, and (ii) a plurality of substantially constant output currents corresponding to the plurality of outputs;

a multiplexing circuit responsive to at least one output selection signal for selecting at least one of the plurality of outputs; and

control circuitry having an input for receiving the control signal, the control circuitry generating the at least one output selection signal.

Q1
cont.
3. (Amended) A variable output power supply, comprising:

an envelope detector for receiving an input signal and for generating a control signal representative of an envelope associated with the input signal;

a controllable source for generating an output that dynamically varies in response to at least the control signal and functionally corresponds with the envelope of the input signal; and

an analog follower coupled with the envelope detector and with the variable output power supply, the analog follower generating a supply output signal having a magnitude that is substantially equal to the envelope of the input signal.

Q2
9. (Amended) A variable output power supply, comprising:

an envelope detector for receiving an input signal and for generating a control signal representative of an envelope associated with the input signal; and

a controllable source for generating an output that dynamically varies in response to at least the control signal and functionally corresponds with the envelope of the input signal;

wherein the envelope detector comprises:

a digital signal processor (DSP) for generating the control signal, the control signal being a function of the envelope of the input signal received by the envelope detector.

Q3
13. (Amended) An amplification system, comprising:

a variable output power supply, the variable output power supply having:

an envelope detector having an input for receiving an input signal presented thereto, the envelope detector generating a control signal that is representative of an envelope associated with the input signal; and

a controllable source operatively coupled to the envelope detector, the controllable source generating an output that dynamically varies in response to at least the control signal, whereby the output of the controllable source is a function of the envelope of the input signal;

Q3
cont. an amplifier having a predetermined gain associated therewith, the amplifier having at least one supply input operatively coupled to the variable output power supply for receiving the output from the variable output power supply, an input for receiving the input signal, and an output for generating an output signal; and

linearization circuitry operatively coupled to the amplifier, the linearization circuitry being configured to substantially remove a nonlinear component in the output signal generated by the amplifier.

17. (Amended) In a linear amplification system having an amplifier, a method of providing a variable output power supply, the method comprising the steps of:

detecting an envelope of an input signal to be amplified;

generating a control signal, the control signal being a function of the envelope of the input signal;

Q4 providing a controllable source, the controllable source having a plurality of outputs and being configured to generate at least one of: (i) a plurality of output voltages, and (ii) a plurality of output currents corresponding to the outputs of the controllable source;

selecting at least one of the outputs generated by the controllable source in response to the control signal to generate an output supply signal of the variable output power supply, whereby the output supply signal is a function of the envelope of the input signal; and

substantially removing at least a portion of a nonlinear component associated with an output signal generated by the amplifier.
